1 **PRODUCT SELECTION EXPERT SYSTEM**

2 VII. <u>CLAIMS</u>

3 WHAT IS CLAIMED IS:

4    1. A system for product selection, the system comprising:

5       a. a CPU;

6       b. a memory operatively connected to the CPU, the memory
7          containing a program adapted to be executed by the CPU and
8          the CPU and memory cooperatively adapted for presenting a
9          user interface and expert interface to an expert system for
10          product selection;

11       c. a expert-interface code segment embodied on a computer-
12          readable medium configured and adapted for:

13            i. creating and modifying via a graphical user interface a
14              graphically-displayed tree structure representing a
15              plurality of product applications;

16            ii. associating and modifying via a graphical user interface
17              one or more use condition with each node of the tree
18              structure; and

19            iii. associating and modifying via a graphical user interface
20              one or more suitability ratings for a plurality of
21              applications;

22            iv. creating and modifying via a graphical user interface a list
23              of products

24            v. associating and modifying via a graphical user interface
25              one or more product with each leaf node of the tree
26              structure;

1       vi. associating via a graphical user interface use condition

2            choices with each product

3      vii. associating via a graphical user interface suitability

4            ratings for each product

5   d. a user-interface code segment embodied on a computer-

6     readable medium configured and adapted for

7       i. selecting via a graphical-use interface a path in the tree

8         structure, and for displaying on the same window of the

9         graphical-use interface:

10           1. the products associated with the leaf node of the

11             selected path;

12           2. the use conditions associated with each node of

13             the selected path; and

14           3. the product usability suitability indicators

15             associated with each node of the selected path;

16       ii. selecting via the same window of the graphical-use

17         interface one or more of the use conditions associated

18         with the nodes of the selected path and for entering the

19         user-defined relative importance of the product usability

20         suitability indicators for the intended application of the

21         products associated with the leaf nodes of the selected

22         path;

23      iii. comparing the selected use conditions with the displayed

24         products, wherein products not having such selected use

25         conditions as attributes are filtered out of the displayed

26         list of products;

27      iv. comparing the entered relative importance of the product

28         usability suitability indicators with the product usability

suitability indicators associated with the displayed products, associating a score with each displayed product indicating the correlation of the comparison, and displaying the score with the product; and

v. printing the resulting product list, corresponding suitability scores, selected tree path, selected use conditions, and entered relative importance of product usability suitability indicators.

2. The system of claim 1, wherein product usability suitability indicators are ranked by user-definable importance factors.

3. The system of claim 1, further comprising printing the resulting product list in sorted order of highest score first.

4. The system of claim 1, wherein the user-interface code segment is real-time, interactive for permitting a user to change one or more selections and to evaluate any resulting changes in the product list.

5. The system of claim 1, wherein the user-interface code segment presents all user selection in a single window permitting a user to change one or more selections in any sequence independent of the order in which the selections where first made.

6. The system of claim 1, further comprising hyperlinks associated with each product in the resulting product list, each hyperlink configured and adapted to retrieve product information regarding the associated product from the Internet or from a database.

7. The system of claim 1, wherein the products associated with each leaf node comprise lubricating products.

8. The system of claim 1, wherein the tree, use conditions, and product usability suitability indicators are configured and adapted to permit

| | | |
|---|---|---|
| 1 | | performance related matching of lubricating products to individual |
| 2 | | lubricating needs. |

3    9. A system for product selection, the system comprising:

4       a. a CPU;

5       b. a memory operatively connected to the CPU, the memory
6           containing a program adapted to be executed by the CPU and
7           the CPU and memory cooperatively adapted for presenting a
8           user interface and expert interface to an expert system for
9           product selection;

10      c. a expert-interface code segment embodied on a computer-
11           readable medium configured and adapted for:

12              i. creating and modifying via a graphical user interface a
13                graphically-displayed tree structure representing a
14                plurality of product applications;

15             ii. associating and modifying via a graphical user interface
16                one or more product with each leaf node of the tree
17                structure;

18            iii. associating and modifying via a graphical user interface
19                one or more use condition with each node of the tree
20                structure; and

21            iv. associating and modifying via a graphical user interface
22                with each product usability suitability indicators for a
23                plurality of applications;

24      d. a user-interface code segment embodied on a computer-
25           readable medium configured and adapted for:

i. selecting via a graphical-use interface a path in the tree structure, and for displaying on the same window of the graphical-use interface:

    1. the products associated with the leaf node of the selected path, and hyperlinks associated with each product configured and adapted to retrieve product information regarding the associated product from the Internet or from a database;

    2. the use conditions associated with each node of the selected path; and

    3. the product usability suitability indicators associated with each node of the selected path, configured and adapted for ranking by user-definable importance factors;

ii. selecting via the same window of the graphical-use interface one or more of the use conditions associated with the nodes of the selected path and for entering the user-defined relative importance of the product usability suitability indicators for the intended application of the products associated with the leaf nodes of the selected path;

iii. comparing the selected use conditions with the displayed products, wherein products not having such selected use conditions as attributes are filtered out of the displayed list of products;

iv. comparing the entered relative importance of the product usability suitability indicators with the product usability suitability indicators associated with the displayed products, associating a score with each displayed product

1                indicating the correlation of the comparison, and

2                displaying the score with the product;

3       v. printing the resulting product list in sorted order of highest

4           score first, corresponding suitability scores, selected tree

5           path, selected use conditions, and entered relative

6           importance of product usability suitability indicators;

7      vi. wherein the user-interface code segment is real-time,

8           interactive for permitting a user to change one or more

9           selections and to evaluate any resulting changes in the

10          product list;

11     vii. wherein the products associated with each leaf node

12          comprise lubricating products; and

13    viii. wherein the tree, use conditions, and product usability

14          suitability indicators are configured and adapted to permit

15          performance related matching of lubricating products to

16          individual lubricating needs.

17 10. A method for product selection comprising:

18    a. selecting via a graphical-use interface a path in a tree structure,

19      and for displaying on the same window of the graphical-use

20      interface:

21       i. the products associated with the leaf node of the selected

22          path;

23      ii. the use conditions associated with each node of the

24          selected path; and

25     iii. the product usability suitability indicators associated with

26          each node of the selected path;

27    b. selecting via the same window of the graphical-use interface

28      one or more of the use conditions associated with the nodes of

the selected path and for entering the user-defined relative importance of the product usability suitability indicators for the intended application of the products associated with the leaf nodes of the selected path;

c. comparing the selected use conditions with the displayed products, wherein products not having such selected use conditions as attributes are filtered out of the displayed list of products;

d. comparing the entered relative importance of the product usability suitability indicators with the product usability suitability indicators associated with the displayed products, associating a score with each displayed product indicating the correlation of the comparison, and displaying the score with the product; and

e. printing the resulting product list, corresponding suitability scores, selected tree path, selected use conditions, and entered relative importance of product usability suitability indicators.

11. The method of claim 1, wherein product usability suitability indicators are ranked by user-definable importance factors.

12. The method of claim 1, further comprising printing the resulting product list in sorted order of highest score first.

13. The method of claim 1, wherein the selecting is real-time, interactive for permitting a user to change one or more selections and to evaluate any resulting changes in the product list.

14. The method of claim 1, further comprising displaying hyperlinks associated with each product in the resulting product list for retrieving product information regarding the associated product from the Internet or from a database.

1   15. The method of claim 1, wherein the products associated with each leaf
2       node comprise lubricating products.

3   16. The method of claim 1, wherein the tree, use conditions, and product
4       usability suitability indicators are configured and adapted to permit
5       performance related matching of lubricating products to individual
6       lubricating needs.

7   17. A method for product selection comprising:
8       a.  selecting via a graphical-use interface a path in a tree structure,
9           and for displaying on the same window of the graphical-use
10          interface:

11              i.  the products associated with the leaf node of the selected
12                  path and ;

13              ii.  the use conditions associated with each node of the
14                   selected path; and

15              iii.  the product usability suitability indicators associated with
16                    each node of the selected path for ranking by user-
17                    definable importance factors;

18      b.  selecting via the same window of the graphical-use interface
19          one or more of the use conditions associated with the nodes of
20          the selected path and for entering the user-defined relative
21          importance of the product usability suitability indicators for the
22          intended application of the products associated with the leaf
23          nodes of the selected path;

24      c.  comparing the selected use conditions with the displayed
25          products, wherein products not having such selected use
26          conditions as attributes are filtered out of the displayed list of
27          products;

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1     d. comparing the entered relative importance of the product
2       usability suitability indicators with the product usability suitability
3       indicators associated with the displayed products, associating a
4       score with each displayed product indicating the correlation of
5       the comparison, and displaying the score with the product; and

6     e. printing the resulting product list in sorted order of highest score
7       first, corresponding suitability scores, selected tree path,
8       selected use conditions, and entered relative importance of
9       product usability suitability indicators; and

10     f. wherein user-interface is real-time, interactive for permitting a
11       user to change one or more selections and to evaluate any
12       resulting changes in the product list.

13   18. A machine-readable program storage medium tangibly embodying
14       sequences of instructions, the sequences of instructions for execution
15       by at least one processing system, the sequences of instructions to
16       perform steps for:
17       a. selecting via a graphical-use interface a path in a tree structure,
18       and for displaying on the same window of the graphical-use
19       interface:

20       i. the products associated with the leaf node of the selected
21       path;

22       ii. the use conditions associated with each node of the
23       selected path; and

24       iii. the product usability suitability indicators associated with
25       each node of the selected path;

26     b. selecting via the same window of the graphical-use interface
27       one or more of the use conditions associated with the nodes of
28       the selected path and for entering the user-defined relative
29       importance of the product usability suitability indicators for the

intended application of the products associated with the leaf
nodes of the selected path;

c. comparing the selected use conditions with the displayed
products, wherein products not having such selected use
conditions as attributes are filtered out of the displayed list of
products;

d. comparing the entered relative importance of the product
usability suitability indicators with the product usability suitability
indicators associated with the displayed products, associating a
score with each displayed product indicating the correlation of
the comparison, and displaying the score with the product; and

e. printing the resulting product list, corresponding suitability
scores, selected tree path, selected use conditions, and entered
relative importance of product usability suitability indicators.

19. The machine-readable program storage medium tangibly of claim 11,
wherein product usability suitability indicators are ranked by user-
definable importance factors.

20. The machine-readable program storage medium tangibly of claim 11,
further comprising printing the resulting product list in sorted order of
highest score first.

21. The machine-readable program storage medium tangibly of claim 11,
system of claim 1, wherein the user-interface code segment is real-
time, interactive for permitting a user to change one or more selections
and to evaluate any resulting changes in the product list.

22. The machine-readable program storage medium tangibly of claim 11,
further comprising hyperlinks associated with each product in the
resulting product list, each hyperlink configured and adapted to retrieve
product information regarding the associated product from the Internet
or from a database.